UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/045,287	10/18/2001	Michael Robins	23397.03200	4468

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EXAMINER
WON, MICHAEL YOUNG

ART UNIT	PAPER NUMBER
2155	

DATE MAILED: 01/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)
	10/045,287	ROBINS ET AL.
	Examiner	Art Unit
	Michael Y Won	2155

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _18 October 2001_.
2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.
3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-30_ is/are pending in the application.
   4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5)☐ Claim(s) _____ is/are allowed.
6)☒ Claim(s) _1-30_ is/are rejected.
7)☐ Claim(s) _____ is/are objected to.
8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.
10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.
   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
   a)☐ All   b)☐ Some * c)☐ None of:
      1.☐ Certified copies of the priority documents have been received.
      2.☐ Certified copies of the priority documents have been received in Application No. _____.
      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)
1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   Claims 1-30 have been examined and are pending with this action.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-9, 11-19, and 21-29 are rejected under 35 U.S.C. 102(a) and (e) as

being anticipated by Demizu (US 6,195,355 B1).

INDEPENDENT:

As per *claim 1*, Demizu teaches a method of performing virtual network

connection merge (see abstract), the method comprising: assembling at least one data

unit from data traffic of at least one network connection (see Fig.6; col.1, lines 59-62;

and col.3, lines 26-32); calculating a credit for each network connection (see col.2, lines

57-60 and col.3, lines 33-37: "priority levels"); determining a chosen data unit to be

transmitted to an output channel, wherein the step of determining the chosen data unit

depends on credit of the network connections (see col.2, lines 57-60 and col.3, lines 33-,

37); and transmitting the chosen data unit to the output channel (see col.2, lines 55-57

and col.13, lines 36-37).

As per *claim 11*, Demizu teaches of an integrated circuit configured to perform a

virtual network connection merge (see abstract), the integrated circuit comprising:

controller circuitry configured to control operations of: assembling at least one data unit ·

from data traffic of at least one network connection (see Fig.6; col.1, lines 59-62; and

col.3, lines 26-32); calculating a credit for each network connection (see col.2, lines 57-

60 and col.3, lines 33-37: "priority levels"); determining a chosen data unit to be

transmitted to an output channel, wherein the step of determining the chosen data unit

depends on credit of the network connections (see col.2, lines 57-60 and col.3, lines 33-

37); and transmitting the chosen data unit to the output channel (see col:2, lines 55-57

and col.13, lines 36-37).

As per *claim 21*, Demizu teaches a computer-readable medium carrying one or

more sequences of one or more instructions for performing a virtual network connection

merge (see abstract), the one or more sequences of one or more instructions including

instructions which, when executed by one or more processors, cause the one or more

processors to perform the steps of: assembling at least one data unit from data traffic of

at least one network connection (see Fig.6; col.1, lines 59-62; and col.3, lines 26-32);

calculating a credit for each network connection (see col.2, lines 57-60 and col.3, lines

33-37: "priority levels"); determining a chosen data unit to be transmitted to an output

channel, wherein the step of determining the chosen data unit depends on credit of the

network connections (see col.2, lines 57-60 and col.3, lines 33-37); and transmitting the

chosen data unit to the output channel (see col.2, lines 55-57 and col.13, lines 36-37).

DEPENDENT:

As per *claims 2, 12, and 22*, Demizu further teaches wherein the step of

assembling at least one data unit comprises: allocating the data traffic of the at least

one data unit into memory cells (see col.2, lines 36-39); adding the memory cells to cell

descriptor (CD) lists until an end of frame (EOF) cell is received, wherein the end of

frame cell is used to identify unit boundaries (see col.2, lines 39-41).

As per *claims 3, 13, and 23*, Demizu further teaches wherein the calculating

step comprises calculating a higher credit for network connection having data that is

ready for transmission (see col.14, line 34: "arrived"), wherein a ready data unit is a

whole data unit with memory cells filled with data traffic (see col.14, lines 29-34).

As per *claims 4, 14, and 24*, Demizu further teaches wherein the step of

transmitting the chosen data unit comprises: allocating merge bandwidth for the chosen

data unit (implicit: see col.5, lines 53-57); adding memory cells of the chosen data unit

to transmit lists (see Fig.19; col.18, lines 15-21 & 37-56); and transmitting the memory

cells of the chosen data unit to the output channel based on information in the transmit

lists, wherein the memory cells of the chosen data unit are transmitted until an end of

frame cell of the chosen data unit is transmitted (see claim 2 rejection above and col.18,

lines 65-67).

As per *claims 5, 15, and 25*, Demizu teaches of further comprising: determining another chosen data unit to be transmitted the output channel; and transmitting the other chosen data unit to the output channel (see col.16, lines 10-23: "repeat").

As per *claims 6, 16, and 26*, Demizu teaches of further comprising performing steps of the method until all data units with sufficient credit have been transmitted (see Fig.13; Fig.16; Fig.19; and col.16, lines 10-23).

As per *claims 7, 17, and 27*, Demizu further teaches wherein the least one network connection includes Asynchronous Transfer Mode (ATM) connections (see Fig.2 and col.8, lines 32-40).

As per *claims 8, 18, and 28*, Demizu teaches of further comprising: assigning a bandwidth guarantee to each network connection (see col.4, lines 63-64 and col.6, lines 33); receiving an overload traffic from a network connection having a relatively low bandwidth guarantee (implicit: col.5, lines 53-57 and see col.10, lines 7-10); and storing the overload of traffic into at least one stored data unit (see col.2, lines 36-41).

As per *claims 9, 19, and 29*, Demizu further teaches wherein the calculating step comprises: assigning a relative frequency value to each network connection, wherein a higher relative frequency value is assigned to a network connection requiring a higher relative bandwidth (see col.1, lines 10-12; col.2, lines 57-60; and col.5, lines 53-57); and allocating credits to each network connection in proportion to relative frequency values of ready network connections of a same virtual network connection merge (see col.2, lines 57-60 and col.5, lines 53-57).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3.   Claims 10, 20, and 30 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Demizu (US 6,195,355 B1) in view of Radhakrishanan et al. (US

6,049,526 A):

As per *claims 10, 20, and 30*, Demizu does not explicitly teach wherein the

determining step comprises: generating a particular bandwidth shape token for the

virtual network connection merge; and receiving a bandwidth shape token configured to

assist in identifying the chosen data unit. Radhakrishanan teach of generating a

particular bandwidth shape token for the virtual network connection merge (see col.6,

lines 39-41); and receiving a bandwidth shape token configured to assist in identifying

the chosen data unit (see col.9, lines 45-60). It would have been obvious to a person of

ordinary skill in the art at the time the invention was made to employ the teachings of

Radhakrishanan within the system of Demizu be implementing generating a particular

bandwidth shape token and receiving such for assisting in identifying the chosen data

unit within the method of performing virtual network connection merge by a program or

integrated circuit because Radhakrishanan teaches that such an implementation is

employed to guarantee scheduling of different VC (virtual channel) cells (of different

rates) and also "avoids and/or reduces cell clumping buffer overflows".
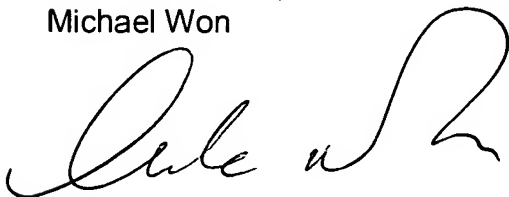
Conclusion

4.   Claims 1-30 have been rejected and are pending with this action.

5.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Y Won whose telephone number is 571-272-3993. The examiner can normally be reached on M-Th: 7AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hosain T Alam can be reached on 571-272-3978. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Michael Won

January 13, 2005

HOSAIN ALAM
SUPERVISORY PATENT EXAMINER